

47  
-34

(New) A nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression, and which hybridizes under high stringency conditions with a sequence of nucleotides set forth in SEQ ID NO:1, wherein the high stringency conditions are selected from the group consisting of:

- (i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes; and
- (ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour.

48

38. (New) A nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression, and which hybridizes under high stringency conditions with a sequence of nucleotides set forth in SEQ ID NO:5, wherein the high stringency conditions are selected from the group consisting of:

- (i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes; and
- (ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour.

C<sup>2</sup>

49  
-41

36. (New) A method of producing a transgenic papaya plant with inhibited fruit senescence including the steps of:

- (a) introducing into a papaya plant, plant part or plant cell a vector comprising a nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression and which hybridizes with a sequence of nucleotides set forth in SEQ ID NO:5 under high stringency conditions selected from the group consisting of:

- (i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes; and
- (ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour;

wherein said isolated nucleotide sequence is operably linked, in a sense orientation, to one or more regulatory nucleotide sequences; and

(b) growing said plant, or regenerating said plant part or said plant cell to produce the transgenic papaya plant.

50

37. (New) A method of producing a transgenic papaya plant with inhibited fruit senescence including the steps of:

(a) introducing into a papaya plant, plant part or plant cell a vector comprising a nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression and which hybridizes with a sequence of nucleotides set forth in SEQ ID NO:5 under high stringency conditions selected from the group consisting of:

(i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes; and

(ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour;

wherein said nucleotide sequence is operably linked, in an antisense orientation, to one or more regulatory nucleotide sequences; and

(b) growing said plant, or regenerating said plant part or said plant cell to produce the transgenic papaya plant.

51

38. (New) A nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression, and which hybridizes under high stringency conditions with a sequence of nucleotides set forth in SEQ ID NO:7 or SEQ ID NO:9, wherein the high stringency conditions are selected from the group consisting of:

(i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes; and

(ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour.

52

39. (New) A method of producing a transgenic mango plant with inhibited fruit senescence comprising:

(a) introducing into a mango plant, plant part or plant cell a vector

comprising a nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression and which hybridizes with a sequence of nucleotides set forth in SEQ ID NO:7 or SEQ ID NO:9 under high stringency conditions selected from the group consisting of:

(i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes;  
and

(ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour;  
wherein said nucleotide sequence is operably linked, in a sense orientation, to one or more regulatory nucleotide sequences; and

(b) growing said plant, or regenerating said plant part or said plant cell to produce the transgenic mango plant.

53

40. (New)

A method of producing a transgenic mango plant with inhibited fruit senescence including the steps of:

(a) introducing into a mango plant, plant part or plant cell a vector comprising an isolated nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression and which hybridizes with a sequence of nucleotides set forth in SEQ ID NO:7 or SEQ ID NO:9 under high stringency conditions selected from the group consisting of:

(i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes;  
and

(ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour;  
wherein said nucleotide sequence is operably linked, in an antisense orientation, to one or more regulatory nucleotide sequences; and

(b) growing said plant, or regenerating said plant part or said plant cell to produce the transgenic mango plant.

Sub 7  
54  
41. (New)

A transgenic papaya plant produced by the method of Claim 16 or Claim 17.

55  
42. (New)

A papaya fruit obtained from the transgenic papaya plant of Claim 21.

56  
43. (New)

A transgenic mango plant produced by the method of Claim 19 or Claim 20.

57  
44. (New)

A mango fruit obtained from the transgenic mango plant of Claim 23.

58  
45. (New)

A vector comprising at least one copy of a nucleotide sequence which is of sufficient length to regulate the level of ACC synthase gene expression and which hybridizes under high stringency conditions with a sequence of nucleotides set forth in SEQ ID NO: 1, SEQ ID NO: 5, SEQ ID NO: 7 or SEQ ID NO: 9, wherein the high stringency conditions are selected from the group consisting of:

- (i) 0.1 x SSC/0.1% SDS at about 68°C for at least about 20 minutes; and
- (ii) 0.2 x SSC/0.1% SDS at about 68°C for about one hour.

Sub 7  
59  
46. (New)

The vector of Claim 25 wherein said nucleotide sequence is operably linked to at least one regulatory nucleotide sequence.--

### REMARKS

The original continuation application was filed with claims 1-33 and the fee calculation on the transmittal form lists 33 claims. In a Second Preliminary Amendment filed December 20, 2000, claims 1-13 were canceled and new claims numbered 14-26, which contain appropriate reference to the SEQ ID NO:, were introduced. The new claims appear to be numbered incorrectly. Furthermore, original claims 14-33 were neither canceled nor amended to comply with the requirements of 37 C.F.R. §1.821 through 1.825. The present amendment cancels all existing claims and reintroduces the claims in the Second Preliminary Amendment as claims 34-46.